

LODGEPOLE NEEDLE MINER

SEQUOIA-KINGS CANYON NATIONAL PARK

SEPTEMBER 1955

RECONNAISSANCE SURVEY

INTRODUCTION

The lodgepole needle miner, Recurvaria milleri Busck, has been present in certain high valleys of Sequoia-Kings Canyon National Park for a number of years. It infests lodgepole pine, Pinus contorta Loudon. Inasmuch as the infestation had not been surveyed since 1953,^{1/} and since the needle miner is currently epidemic in other areas, notably Yosemite National Park, it was thought advisable to check one of the known areas in Kings Canyon to see what conditions were prevailing. Accordingly, R. E. Stevens of the Division of Forest Insect Research, accompanied by Park Service Assistant Regional Forester C. E. Johnson, District Ranger J. Martinek, and Roy Bloomstrom and Neil MacGregor of Blister Rust Control, United States Forest Service, made a pack trip into the Woods Creek drainage on September 19 and 20.

STATUS AND SCOPE OF INFESTATION

The 1953 survey report lists the following 4 areas as being infested by the needle miner:

1. Woods Creek
2. Big Arroyo
3. Forest Creek--Hockett Meadows
4. Gallat's Lake

Only the first area was visited in the 1955 reconnaissance, but it can probably be assumed that the infestation characteristics in this area are similar to those in the others. Noticeably heavy needle miner activity was first observed at around the 8,000-foot level, and was continuous up to the campsite on Baxter Creek at an elevation of about 10,000 feet. Defoliation seemed to be more severe at the higher level. Undoubtedly the insects are found also somewhat lower than 8,000 feet, but in less significant numbers.

^{1/} Wickman, B. E. Forest Insect Survey, Sequoia-Kings Canyon National Park. October 1953. Reconnaissance Survey. U. S. Dept. Agr., Bur. Ent. & Pl. Quar., Berkeley, Calif. October 27, 1953.

At the upper elevations some lodgepole pines are beginning to die back from the tip as repeated defoliations destroy each year's new growth. Unless the population diminishes within the next two generations (4 years), some tree killing may be expected.

The needle miner situation in Yosemite National Park is made more serious by the presence of epidemic conditions of the mountain pine beetle. In the Woods Creek area of Kings Canyon, at least, these circumstances do not yet exist. Mountain pine beetle-killed trees were seen, but not in important numbers; actually, it is rather difficult to find current activity of this insect. With an abundant supply of weakened timber in which to work, though, it could rapidly build up to epidemic numbers and add to the seriousness of the problem.

DISCUSSION

Currently there are no practical control measures for the lodgepole needle miner. Aerial sprays offer about the only hopeful solution, and research toward developing a control through this means is being carried on at Tuolumne Meadows in Yosemite National Park. In the event a satisfactory spray procedure is devised--and there is reason to believe that one soon will be--several other problems would have to be explored before contemplating its use in the Sequoia-Kings Canyon infestation areas. Among the more important of these are the considerations of the remoteness and extent of the infestation and the technical difficulties involved in the application of spray from an aircraft in such high and rugged terrain.

An attempt will be made next season to sketch-map the various points of the infestation from an aircraft, in order to delineate its boundaries. The mountain pine beetle situation should be ground-checked in 1956. Other than these two items, no further action is indicated.

There appear to be no important bark-beetle problems in the ponderosa, Jeffrey and sugar pines in the Park this year, but the usual maintenance control should be continued. The recent fire on national forest lands just outside the boundaries may possibly have an effect on the beetle situation, if there were any heavy flights occurring after the fire. An effort will be made to survey the burn area next summer and appraise bark-beetle conditions.

Berkeley, California
November 3, 1955

Robert E. Stevens
Entomologist